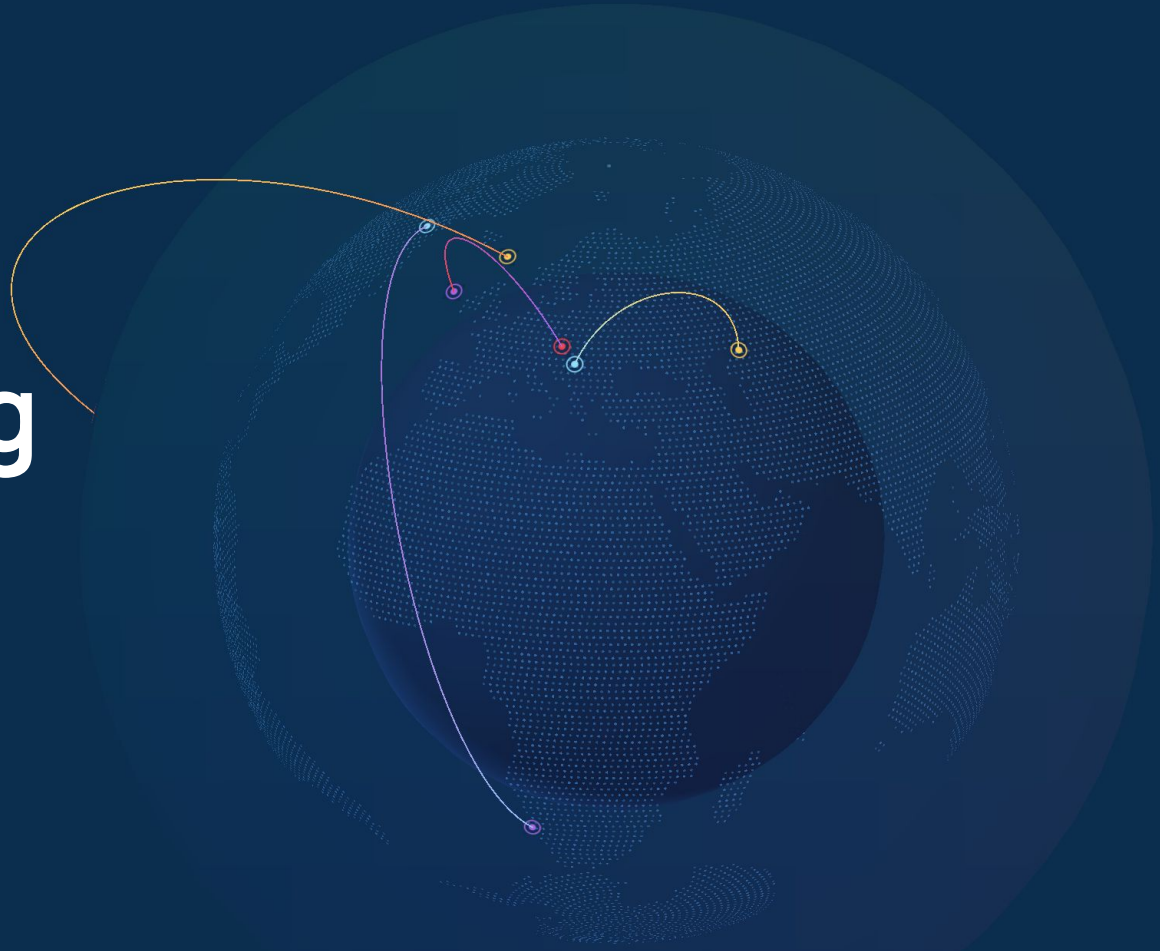
Secrets of Software Engineering

We'll start at 6:05pm



Peter Wu
V1 @ Michigan
September 28, 2023

Recruiting Advice Email Template

Note to self 7/19/2022

Playing the Recruiting Game

Recruiting for full-time jobs and internships is as much playing the game as it is being good at what you do. You can roughly categorize them into two stages: getting the interview, and passing the interview.

1. Starting early — most companies prefer applicants who apply early, because everything is on a rolling basis. The earlier you apply, the quicker you get interviews, and the better you can line up your offers. Quant firms start in June for the next summer, whereas most Software/ML jobs start late July/early August. Interviews are also significantly easier at the earlier stages.
2. Connections — I never found referrals helpful for me, but getting contact about recruiters from friends is a good strategy. When you come across companies, ask your friends (or me) to see if we have any recruiter emails. Here are the recruiters from companies that I got offer from (don't say I gave you their emails!). Order of preference is hiring manager, then recruiter, then referrals, then blind applying online. See below for more contacts on the spreadsheet.

Get Superhuman to email like this!

https://superhuman.com/refer/t9uxvinz

Shared with me > V1 SWE Playbook

Type | People | Modified

Files

Name

[V1] Blind 75 Trac...

[V1] Coding Interv...

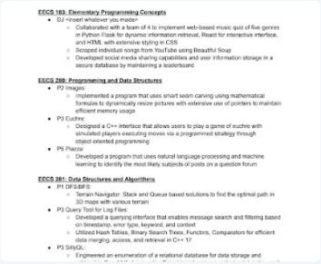
[V1] Computer Sci...

[V1] Easy Class b...

[V1] F23 Secrets o...

[V1] Internship Tr...

[V1] Project Resu...



This talk is about recession-proofing and setting yourself on a great trajectory

How to think about "the process"

How to Prepare

How to Recruit (Now + Later)

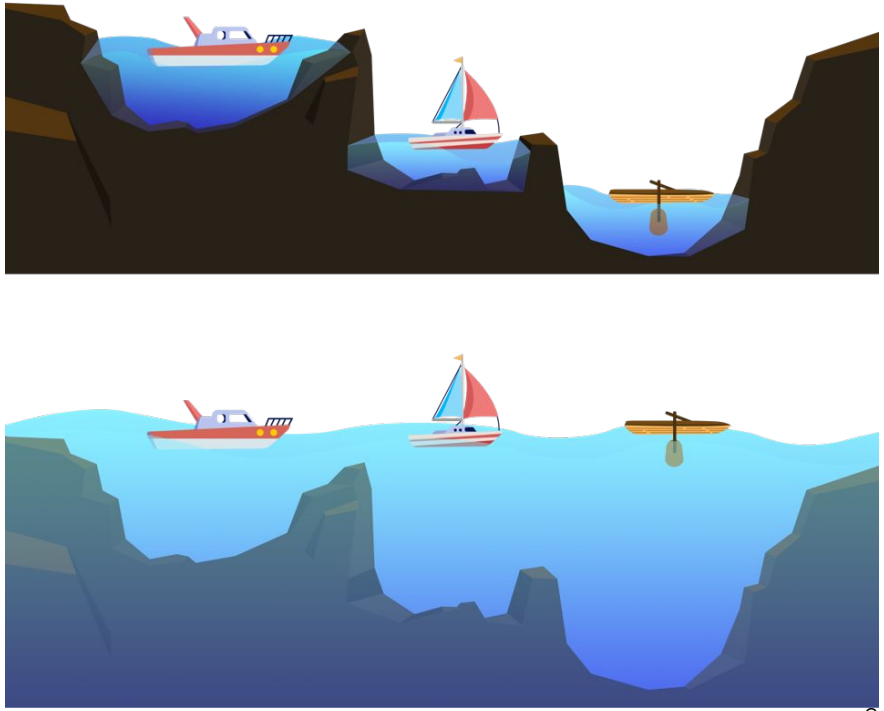
V1 SWE Playbook — Slides/Notes, Trackers, LC Problems, Classes, etc.

💪 Most importantly: this is about YOU

“A rising tide lifts all ships”

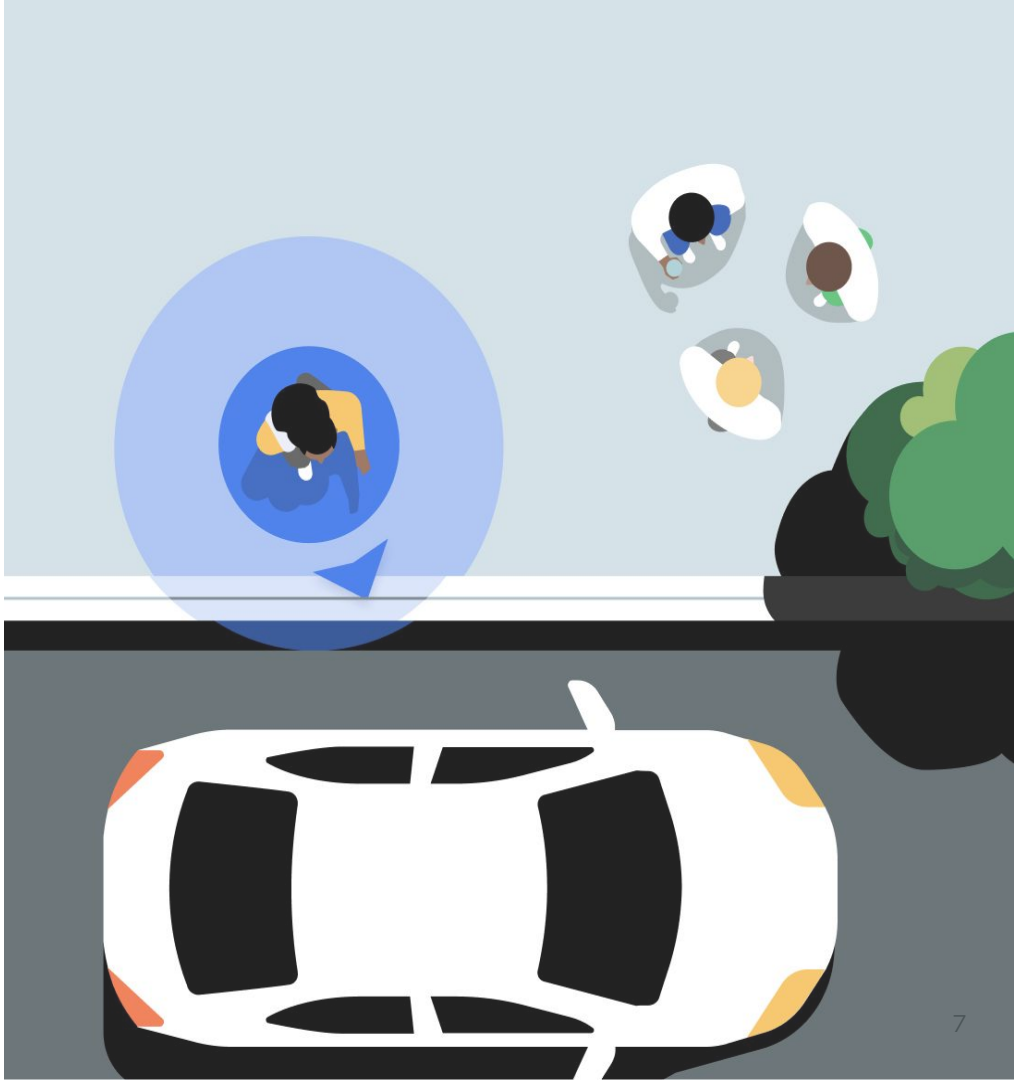
- The better **you** do, the better we do as a **school**
- The better we do as a **school**, the more **recruiters** and **hot companies** will recruit students from Michigan
- The more **exposure** we have, the better **network**

Out of all the “mandatory” events, we hope this is the most insightful one.



Agenda

00 Story
01 Introduction
02 How to Recruit
03 Written Presence
04 Preparation
05 The Day
06 Negotiation
07 Appendix

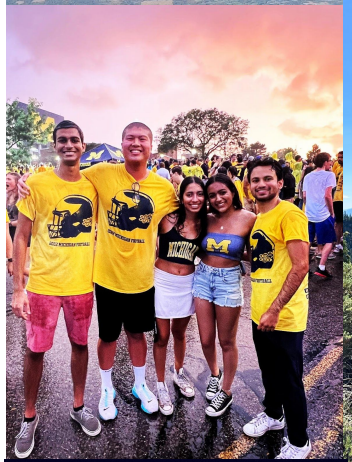


Story

Story

About

- 5th Year CS Major, Triple Minor
- Founded a Chinese restaurant at age 15
- Involved with
  - Atlas Digital
  - V1 Michigan
  - … and like 10 other things …
- Make the world a better place than I founded
- You belong at Michigan - don't let anyone tell you otherwise



Work Experience

Application Statistics

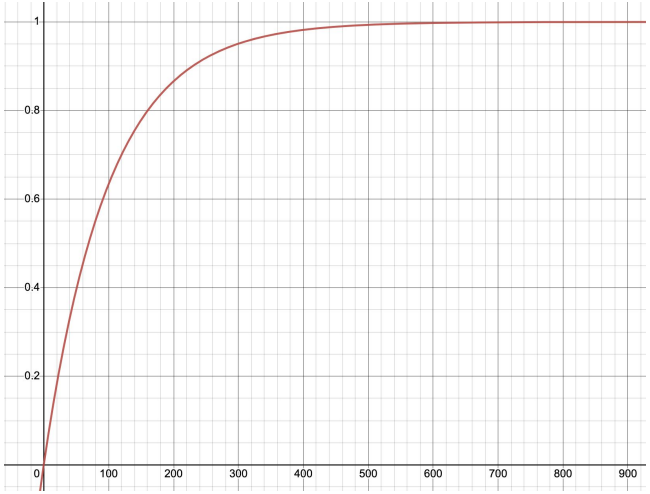
Year	Process	Offers	Success %
Freshman	5 Apps, 0 Interviews	0	0%
Sophomore	10 Apps, 4 OAs, 3 Interviews	1	10%
Junior	150 Apps, 17 OAs, 9 Interviews	5	3.3%
Senior	85 Apps, 20 OAs, 4 Interviews	5	5.8%
Total	**250 Apps**	**11**	**4.4%**

Guarantee Yourself an Offer

Let's do some math. P(internship accepted) = 0.01, P(internship NOT accepted) = 0.99.

- **P(No offer after 500 apps) = (0.99) ^ 500 = 0.00657**
- **P(> = 1 offer after 500 apps) = 1 - (0.99) ^ 500 = 0.99343**

You <u>essentially</u> guarantee yourself > = 1 offer if you apply to > = 500 companies, taking the worst acceptance rate.



Story

Internships Changed My Family's Life

Radix Trading
Chicago, IL - Summer / 2023
$150 / hr
$26,000 / mo

levels.fyi/internships

Vatic Investments
New York, NY - Summer / 2023
$150 / hr
$26,000 / mo

Arrowstreet Capital
Boston, MA - Summer / 2023
More Locations / Seasons →
$144.23 / hr
$25,000 / mo

Optiver
Chicago, IL - Summer / 2023
More Locations / Seasons →
$137.50 / hr
$23,833 / mo

Ramp
New York City, NY - Summer / 2022
$60 / hr
$10,400 / mo

Snap
Santa Monica, CA - Summer / 2023
More Locations / Seasons →
$69.81 / hr
$12,100 / mo

Amazon
Seattle, WA - Summer / 2023
More Locations / Seasons →
$69.70 / hr
$12,081 / mo

Capital One
San Francisco, CA - Summer / 2023
More Locations / Seasons →
$69.23 / hr
$11,999 / mo

Uber
San Francisco, CA - Summer / 2023
More Locations / Seasons →
$52 / hr
$9,013 / mo

Introduction

Playing the Recruiting Game

Getting the Interview

+

Passing the Interview

Timeline

June	July	August	September	October	November
Quant Apps Open		Quant Interviews		Quant Closes	
				V1 Startup Fair	
		Tech / Startup Apps Open	Tech / Startup Company Interviews, Positions Closes		

Second Wind

November	December	January	February	March	April
1st Wave Closes	INTERVIEWS GET REALLY HARD →	2nd Wave Begins	Final Interviews		

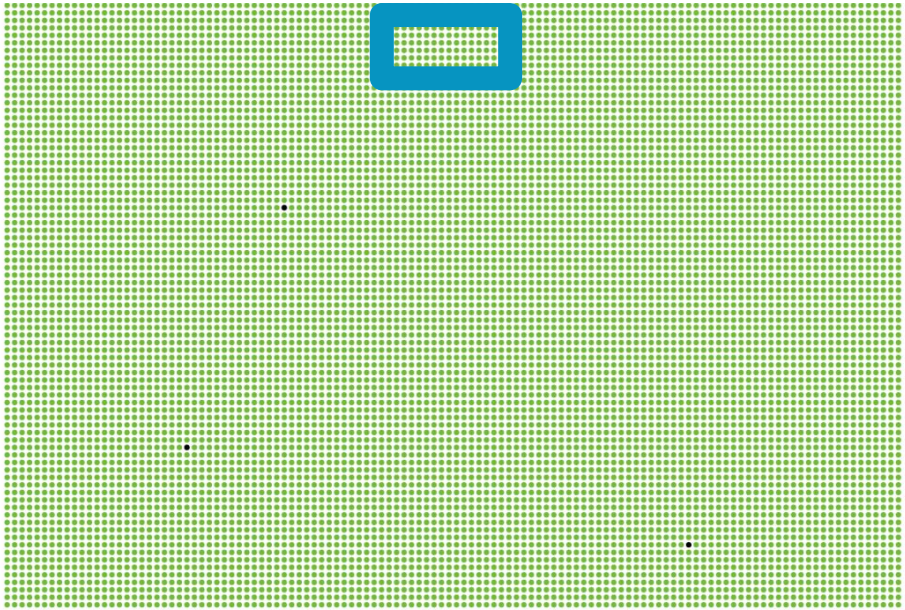
Why Apply Early?

1. Smaller applicant pool early on
2. Lining up timelines
3. Apps close very quickly

Apps Close VERY Quickly

In July/August

In Nov/Dec/Jan



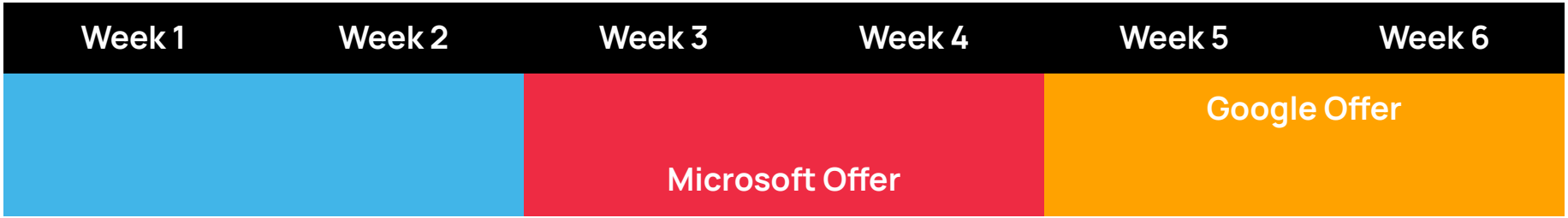
What You DON’T Want

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Google Offer		Amazon Offer		Microsoft Offer	

In an ideal world → New Offer

Punt

New Offer


Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Microsoft Offer
Google Offer

Punt

Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Google Offer
Microsoft Offer

New Offer

Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Amazon Offer
Google Offer
Microsoft Offer

Punt

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
				Google Offer Microsoft Offer Amazon Offer	

This is called lining up the timeline 😋

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
				Google Offer	
				Microsoft Offer	
				Amazon Offer	

And we can negotiate 😍

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
				Google Offer	
				Microsoft Offer	
				Amazon Offer	

If nothing else, you have time to decide

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
				Google Offer	
				Microsoft Offer	
				Amazon Offer	

How to Recruit

Remember This Issue?

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Google Offer		Amazon Offer		Microsoft Offer	

How do we get it like this?

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
				Google Offer	
				Microsoft Offer	
				Amazon Offer	

Step 1: Punt

Exploding Offers

Dear <….>,

Thank you so much for extending me the opportunity to return to <company> next year! <1 sentence specific why you liked it>.

I noticed that my internship offer as it stands expires <…>. As a student at University of Michigan, our Recruitment Policy **requires that** "Employers offering full-time and internship offers remain open until November 30th", regardless of how students were recruited. Here's the link to our Recruitment Policy: https://careercenter.umich.edu/content/recruiting-guidelines

Would <…> be able to adjust my offer to be in accordance with my University's employment guidelines?

Thank you again for the opportunity,
Peter

Extending Deadlines

From: Weirong Wu [weirongw@umich.edu]
Sent: 10/6/2022 5:27 PM
To: asp-offersonboarding@amazon.com
Subject: Amazon SDE Internship — Weirong Wu

Hey there!

Thank you so much for extending me an offer as an SDE Intern at Amazon for Summer 2023. I am super excited to build the future for the Earth's most customer-centric company.

I noticed that my internship offer as it stands expires November 1, 2022. As a student at the University of Michigan — College of Engineering, our recruitment policy from the career center requires that "employers offering full-time and internship offers remain open until November 30." Here's the link to the policy: https://careercenter.umich.edu/content/recruiting-guidelines.

Would Amazon be able to adjust my offer in accordance with my university's employment guidelines?

E2C OCT 10

Hello Peter,

Thank you for letting us know. I have updated your offer decision deadline to 11/30/2022, per your university requirements. Please let us know if you need anything else. Have a great day!

Best,
Gabriel
Amazon Student Programs

Step 2: Expedited Process

Expediting Process — can use for everyone

Subject Title: Request for Accelerated Timeline — ‹company name›

Dear ‹recruiter›,

I hope you're doing well! My name is Peter, and I am a senior studying Computer Science and Pure Math at the University of Michigan. After hearing about what it's like to work at ‹...›, I applied to your ‹position› right away because I would love to work here next year!

I wanted to let you know early on in the process that I have exploding deadlines with ‹another company› expiring October 4th. That said, I'm really excited about ‹...› and really want to see if we can make it work. Since my timeline is now compressed, is there anything we can do to expedite the process?

I've attached my resume below in case it's helpful. Thanks for your time and looking forward to connecting!

Warmly,
Peter

For New Jobs

Hi Alexa!

My name is Peter, and I am a senior studying Computer Science and Pure Math at the University of Michigan. After hearing what it's like to work at Bloomberg from Maximos Nolan, I applied to the new grad position right way because I'd love to come work at Bloomberg next year full-time!

I want to let you know early in the process that I currently have exploding deadlines with Microsoft, Uber, and Amazon expiring October 16, 2023. That said, I'm really excited about Bloomberg and really want to see if we can make it work. Since my timeline is now compressed, is there anything we can do to expedite the process?

I also attached my resume below in case it's helpful! Looking forward to connecting :)

Thanks,
Peter

PeterWu2023Resume

PDF

Sent Email at 8:09PM

Bloomberg Software Engineering Internship Interest + Expedited Timeline

Remind me if no reply

Me to hhasib1@bloomberg.com 9/20/2021 Mon, Sep 20 2021 at 8:09 PM EST

Dear Harun,

I hope you had a fantastic weekend!

My name is Peter Wu, and I'm a Computer Science junior at University of Michigan. I applied for Bloomberg's SWE Internship position after speaking to current engineer Andrew Awad, who strongly encouraged me to connect with the opportunity.

hhasib1@bloomberg.com

hhasib1@bloomberg.com

Bloomberg Software Engineering Internsh...

bloomberg.com

Received Interview at 9:57PM

Bloomberg: Phone Interview - 2022 Software Engineer Intern 92291

From Human Resources HRes <hrblpnyk@bloomberg.net>
To weirongw@umich.edu
Monday, September 20 2021 at 9:57 PM EST

Hi Weirong:

Thank you for applying to 2022 Software Engineer Intern at Bloomberg! We would love to speak to you and learn more about your background, interests and skillset.

Please click on the link below to schedule a 40-60 minute technical phone interview with one of our awesome software engineers.

https://careers.bloomberg.com/account/applications/

Once you've chosen your time slot, you will get an email confirming your interview details as well as resources and tips on how to best prepare for your upcoming interview. Please note this will be a technical interview and you will need a PC/laptop with Internet access to complete the live-coding portion of the interview.

For Return Offers

Hello from Peter!

Me SEP 22

Hi Megha!

I hope your summer is wrapping up well and happy early first day of fall! I really miss our 1-1s and working with POEM team this summer.

It's been a while since we last spoke, and since it's time for me to start thinking about full-time careers, I wanted to reach out.

When we last connected, Amazon notified me of hiring freezes at the org-wide level for return offers. I was really excited to hear positive performance feedback and potentially coming back in a full-time capacity.

I've recently received several offers which are all quite strong, all expiring in early to mid October. That said, I would love to come back to learn and grow with Amazon! Since my timeline is now compressed, is there anything we can do to explore return offer options and expedite the process?

Looking forward to chatting again!

Thank you,
Peter

Megha SEP 22

Hi Peter
Thanks for your email. I'm doing good and the team misses you around 😊

I hope you had a good summer and I'm sure your offers will be exciting since you totally deserve them.

I would let HR reach out to you to answer any questions on your offer asap.

Keep me posted on how your decide 😊 .

Thanks
Megha

Super Expedited Process

Capital One Application

Olivia 8/8/2022

Hi Peter,

Hope you're doing well! I wanted to follow up with you to see if you're available for a quick, 15-minute phone call sometime this week? Since you re-applied this year after receiving an offer last year, I just had a couple of questions for you! Please let me know what your availability looks like, and we can set something up.

Best,

...

Stonks 🚀

Olivia 9/6/2022

Hi Peter,

Hope you had a great weekend! I wanted to finally share that your offer letter will be in the generation process by today or tomorrow - so you should receive it within the next few days. Thank you again for your patience, and please let me know if you have any questions!

Best,

...

Written Presence

Four Components

Resume

LinkedIn

GitHub

Personal Website

Written Presence

Resumes

It's about shipping code

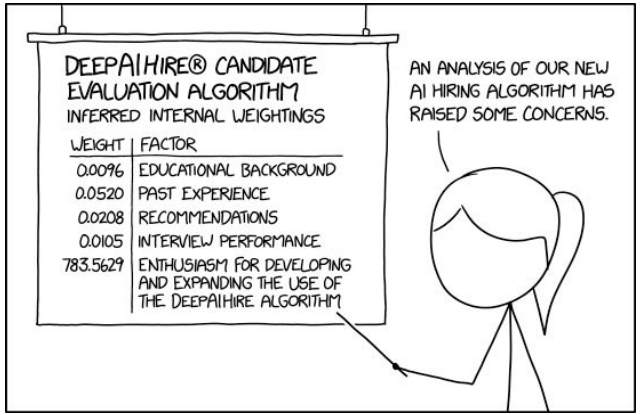
S	Prior Internships
A	Projects / Products
B	Research, IA, Leadership
C	Clubs, Awards
D	GPA
E	
F	Everything Else

Resume - Intro

- A recruiter or hiring manager is reading your resume
  - Spends average of 3 seconds
  - **Therefore, your resume is your pickup line** 😅
  - Varies between technical and non-technical
- **Limit to ONE page, ONE column**
- Find every opportunity to be unique
  - **Resume should tell a story**
    - **"Peter is a software engineer that has experience with writing distributed systems, machine learning, and programming languages in production."**
  - Competing with thousands of applicants
  - Basic proficiency is not sufficient
- Get your resume reviewed by MANY people, and have your friends share resumes so you can learn from each other

Optimizing Resumes

- Formatting
  - Don't use Ross resume
  - Don't lie
  - Use this LaTeX template
    - 1 Page, 1 Column
    - Simple to parse
    - Very easy to add/remove content
    - Looks so sexy 🤤
  - Expensive piece of real estate - reduce whitespace
- Updating
  - Include new accolades (EC, Projects, Awards, Internships, Classes, etc.)
- It's all about hitting keywords



Resume - Intro / Education

WEIRONG (PETER) WU

weirongw@umich.edu weirongw.io @weirongw @weirong23

Education

University of Michigan — College of Engineering **Ann Arbor, MI**

B.S.E. in Computer Science, Minor in Mathematics

- **GPA:** 3.90/4.00 | **Awards:** EECS Scholar, Regent's Scholar, Engineering Dean's List, University Honors
- **Courses:** Data Structures & Algorithms, Distributed Systems, Operating Systems, Web Systems, Machine Learning, Deep Learning, Conversational AI, Programming Languages, Compilers, Honors Analysis, Combinatorics/Graph Theory
- **Activities:** Atlas Digital Tech Consulting (Vice President), Michigan Hackers (Senior Advisor), V1 at Michigan (Engineering Mentor), TAMID Investment Fund (Director of Technology for $25K fund), Eta Kappa Nu, Honor Council

- Include links to Email, LinkedIn, GitHub, Website (if you have one)
- If you choose to include grad date, change yours to a junior date (if you meet 55 credits)
  - If you claim you're a junior, you should not have high school stuff on here
- **GPA:** Include if >= 3.0, combine with awards
- **Coursework:** Start with EECS 281, add everything else
- **Activities:** clubs you're involved in, (optional) add leadership positions

Resume - Experience

Experience

Microsoft **Redmond, WA**

Software Engineer Intern *Jun 2023 – Sep 2023*

- Wrote a PyTorch DataPipe library to natively enable all Azure customers to create data pipelines, train deep learning models, and interact with planetary-scale unstructured data on Azure Storage, offering high security and scalability.
- Created a custom set of validation algorithms using OpenAI and Microsoft APIs and automated tests for evaluating data pipeline I/O accuracy, speed, and memory usage, and improved performance using C++ smart pointers and buffering.
- Led technical design reviews and researched product launch vehicles with Principal Engineers, PMs, and stakeholders.

Amazon **Seattle, WA**

Software Engineer Intern *May 2023 – Jun 2023*

- Developed a next-generation server-side dynamic rendering platform for Items Preview Widget on the Order Details Page, powering all of Amazon's global customers after rolling out features in 7 weeks.
- Redesigned un-ergonomic API interfaces by applying modern design patterns to Java Spring endpoints and various performant data fetching techniques in GraphQL data resolvers that decreased overall latency by 10%.
- Integrated several tests for AWS-hosted deployment pipelines using JUnit and Cypress frameworks while shipping new features and fixes across team's roadmap spanning gateway design, routing, and multithreaded request timeouts.

Uber **San Francisco, CA**

Software Engineer Intern *Jun 2022 – Aug 2022*

- Authored and scaled a real-time, fault-tolerant unified location sharing feature, processing 500K geospatial data per second across 50 countries using Apache Flink by reading from multiple Kafka topics to land 7% lower cancellation rate.
- Designed the Pub/Sub architecture for Location Store's asynchronous writes capability to ingest and distribute data in parallel, improving location upload stability for the entire Uber product ecosystem while clocking p95 under 100ms.
- Provided high microservice availability by adding 100% coverage tests (unit, integration, load) to CD pipelines, tools to monitor time-series metrics in Grafana through M3QL query server, and A/B tests results to visualize business impact.

Bubble **New York City, NY**

Software Engineer Intern *Jan 2022 – May 2022*

- Engineered visual REST API feature set used by 3M+ users, seamlessly integrating with webhooks, receiving arbitrary response data, and syncing with external plugins. Leveraged TypeScript, Node.js, Docker, and Redis.
- Crafted a novel optimization in Postgres counting to improve app responsiveness, reliability, and scale bulk data manipulation, reduced CPU load by 100x and memory by 5x across all queries.
- Pioneered engineering design review culture, streamlined onboarding, interacted with users, and blitzscaled Bubble.

IBM **Cambridge, MA**

Software Engineer Intern *Mar 2021 – Aug 2021*

- Implemented a PyTorch library using advanced computer vision algorithms transforming over 10TB of unstructured documents into structured upstream data for IBM DB2 storage service, attaining 87.9% accuracy on validation dataset.
- Launched product with MIT-IBM Watson AI Lab scientists to advance ML research and saved IBM $400K/year.

Improving Resume is an Iterative Process

Show, Don't Tell:

- [Verb] [Technical Details] [Result with Numbers]
- Accomplished [X], Measured by [Y], By Doing [Z]

Writing Resumes:

1. Take an empty sheet of paper or google doc (only do one experience at a time)
2. Write down everything you did for the project or internship (see below for "Things to Consider"). Go for 5-10 things.
3. Consolidate these items into 2-5 items.
4. Apply the format.
5. Send it to your friends (or me) for review.
6. Apply to jobs!

Crafting Resumes

Resume Verbs

developed, optimized, shipped, deployed, enabled, built, implemented, pioneered, applied, presented, leveraged, researched, enhanced, enriched, spearheaded, engineered, released, devised, tested, integrated, collaborated, crafted, published, piloted

Things to Consider

- Design and Architecture
- Collaboration with Stakeholders
- Development Process (Implementation, Testing, etc.)
- Deployment and Monitoring
- Visualization
- A/B Testing
- Documentation
- Who did you interact with/presented to

Resume - Experience

Uber **San Francisco, CA**

Software Engineer Intern *Jun 2022 – Aug 2022*

- Authored and scaled a real-time, fault-tolerant unified location sharing feature, processing 500K geospatial data per second across 50 countries using Apache Flink by reading from multiple Kafka topics to land 7% lower cancellation rate.
- Designed the Pub/Sub architecture for Location Store's asynchronous writes capability to ingest and distribute data in parallel, improving location upload stability for the entire Uber product ecosystem while clocking p95 under 100ms.
- Provided high microservice availability by adding 100% coverage tests (unit, integration, load) to CD pipelines, tools to monitor time-series metrics in Grafana through M3QL query server, and A/B tests results to visualize business impact.

- The end product took 7 iterations
- Once you go through the process, find out what you want to demonstrate
  - This particular experience shows **big data, distributed systems, and algorithms**
  - To make this experience feel full, I added other things I did during the internship, like the **quality of my code, CI/CD pipelines, A/B testing, metrics,** all of which are great things to consider for an engineer

Resume - Projects

Projects

Cocoa

- Web-based conversational AI offering personalized recommendations for restaurants, movies, and songs to alleviate choice paralysis. Trained in Dialogflow, backed by FastAPI Webhooks, and hosted on Heroku. Code and Demo

Distributed Key-Value Store

- Linearizable, fault-tolerant distributed key-value store developed in Golang, using Paxos for consensus and Sharding for load balancing. Upgraded performance by adding real-time garbage collection and minimizing network communication.

- Hit buzzwords — frontend frameworks, backend services, APIs, cloud, etc.
- List personal projects and finally class projects if you need to
  - Check out V1 SWE Playbook Resources > [V1] Project Bullet Points
  - **If you don't feel like have a lot**
    - Aim to build 1-2 projects per semester with friends :)
    - Leverage communities like V1
    - Fill in with 280 P5, 281 P3, etc.
- No such thing as a perfect project, see YT Tutorials

Resume - Skills

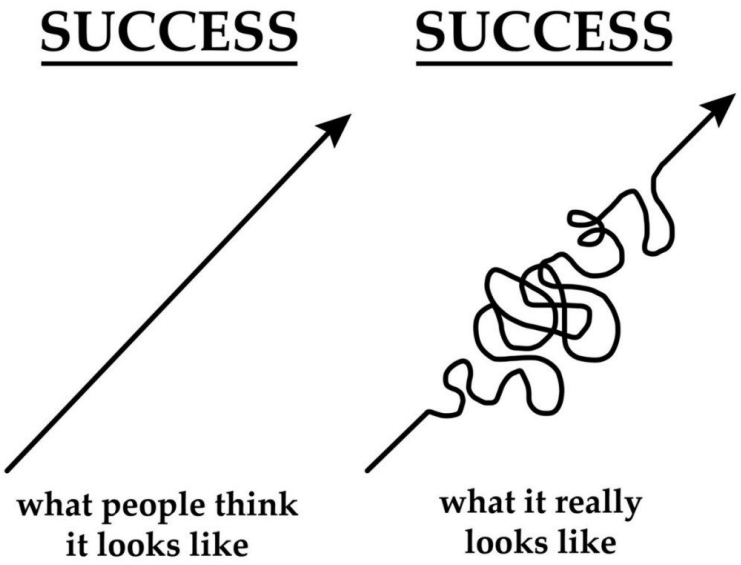
Skills

Languages: C, C++, Python, Golang, HTML/CSS/JavaScript
Technologies: Linux, Git, ReactJS, FastAPI, Pandas, Numpy, PyTorch, Tensorflow, Google Cloud
Interests: Skydiving, Marathon Running, Ultracycling, Photography, Investing, Philosophy, Traditional Chinese Culinary

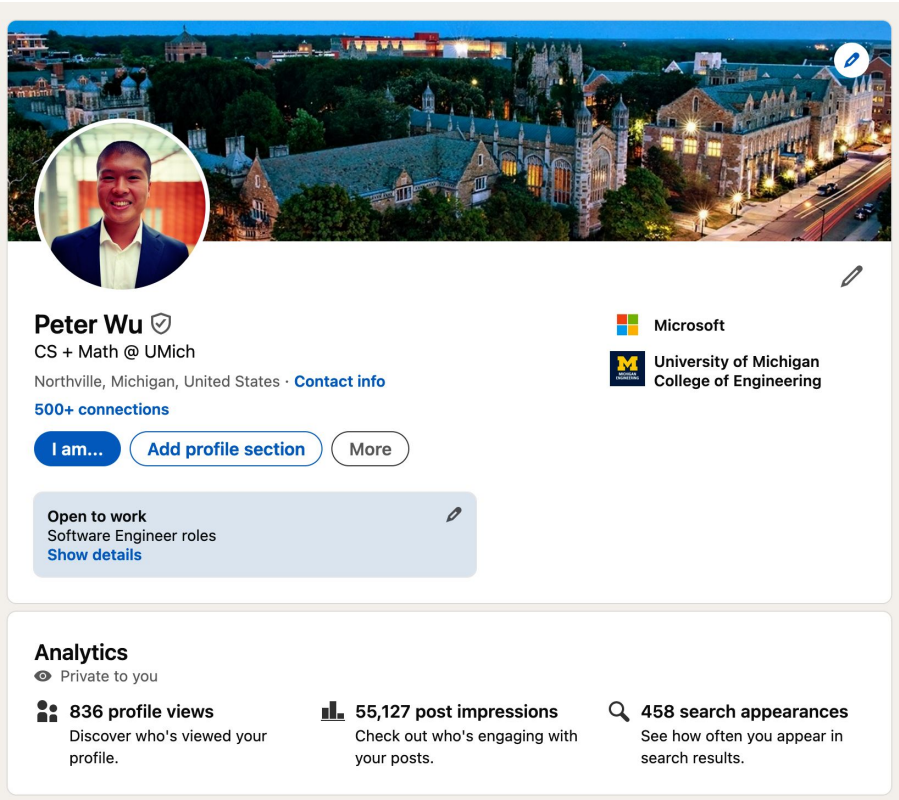
- Include languages you can interview in (Java is not one of them for me)
- If you've done personal projects, you can probably include Python, JS, etc.
- Include tools you're comfortable using, can even add things like Tableau, Figma, etc.
- Include interests, often conversation starters
- Caveats
  - Be careful what you claim on here
  - Can be useful for matching projects (e.g. Microsoft)
  - DO NOT USE A 5 STAR BAR TO MEASURE YOURSELF 🥴

LinkedIn

- Similar to resumes
  - Complete with more details
  - Just list companies/names
- Can be very helpful for getting contacted by recruiters
- Connections can be helpful **if and only if** they are meaningful
- Include relevant experiences, classes, projects, etc.
- Take profiles with a grain of salt (like all social media)



LinkedIn


Peter Wu
CS + Math @ UMich
Northville, Michigan, United States · Contact info
500+ connections
I am...
Add profile section
More
Open to work
Software Engineer roles
Show details
Microsoft
University of Michigan
College of Engineering
Analytics
Private to you
836 profile views
Discover who's viewed your profile.
55,127 post impressions
Check out who's engaging with your posts.
458 search appearances
See how often you appear in search results.

LinkedIn

Experience

Microsoft — **Redmond, WA**
Software Engineer Intern — *Jun 2023 – Sep 2023*

- Wrote a PyTorch DataPipe library to natively enable all Azure customers to create data pipelines, train deep learning models, and interact with planetary-scale unstructured data on Azure Storage, offering high security and scalability.
- Created a custom set of validation algorithms using OpenAI and Microsoft APIs and automated tests for evaluating data pipeline I/O accuracy, speed, and memory usage, and improved performance using C++ smart pointers and buffering.
- Led technical design reviews and researched product launch vehicles with Principal Engineers, PMs, and stakeholders.

Amazon — **Seattle, WA**
Software Engineer Intern — *May 2023 – Jun 2023*

- Developed a next-generation server-side dynamic rendering platform for Items Preview Widget on the Order Details Page, powering all of Amazon's global customers after rolling out features in 7 weeks.
- Redesigned un-ergonomic API interfaces by applying modern design patterns to Java Spring endpoints and various performant data fetching techniques in GraphQL data resolvers that decreased overall latency by 10%.
- Integrated several tests for AWS-hosted deployment pipelines using JUnit and Cypress frameworks while shipping new features and fixes across team's roadmap spanning gateway design, routing, and multithreaded request timeouts.

Uber — **San Francisco, CA**
Software Engineer Intern — *Jun 2022 – Aug 2022*

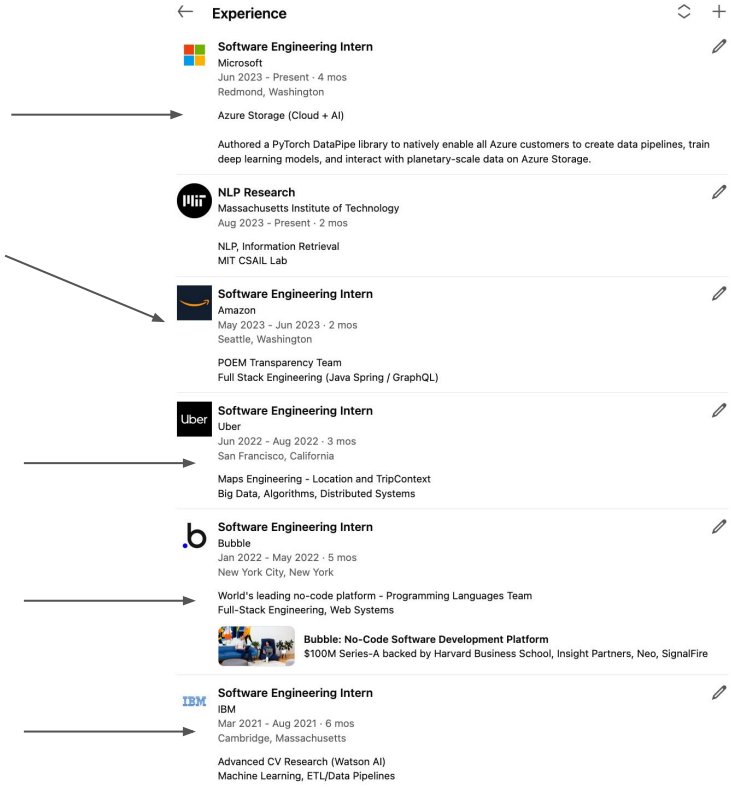
- Authored and scaled a real-time, fault-tolerant unified location sharing feature, processing 500K geospatial data per second across 50 countries using Apache Flink by reading from multiple Kafka topics to land 7% lower cancellation rate.
- Designed the Pub/Sub architecture for Location Store's asynchronous writes capability to ingest and distribute data in parallel, improving location upload stability for the entire Uber product ecosystem while clocking p95 under 100ms.
- Provided high microservice availability by adding 100% coverage tests (unit, integration, load) to CD pipelines, tools to monitor time-series metrics in Grafana through M3QL query server, and A/B tests results to visualize business impact.

Bubble — **New York City, NY**
Software Engineer Intern — *Jan 2022 – May 2022*

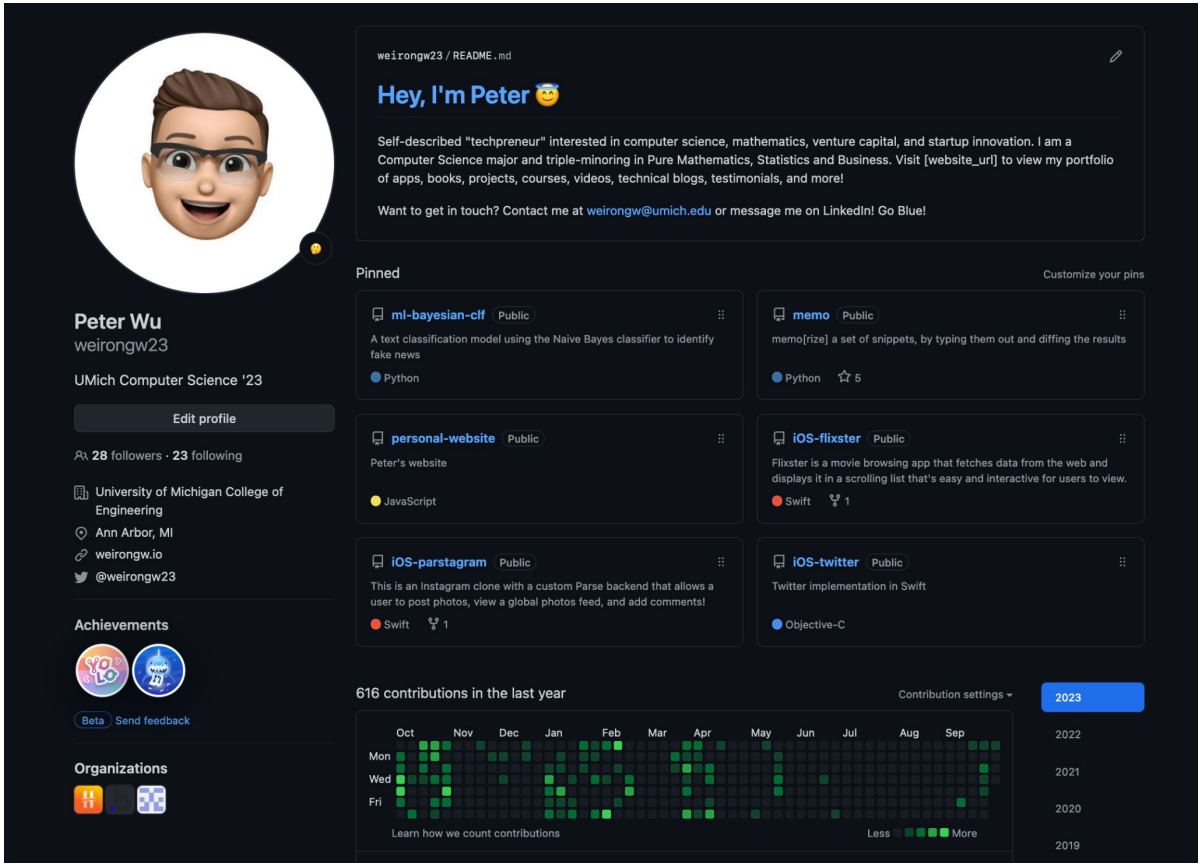
- Engineered visual REST API feature set used by 3M+ users, seamlessly integrating with webhooks, receiving arbitrary response data, and syncing with external plugins. Leveraged TypeScript, Node.js, Docker, and Redis.
- Crafted a novel optimization in Postgres counting to improve app responsiveness, reliability, and scale bulk data manipulation, reduced CPU load by 100x and memory by 5x across all queries.
- Pioneered engineering design review culture, streamlined onboarding, interacted with users, and blitzscaled Bubble.

IBM — **Cambridge, MA**
Software Engineer Intern — *Mar 2021 – Aug 2021*

- Implemented a PyTorch library using advanced computer vision algorithms transforming over 10TB of unstructured documents into structured upstream data for IBM DB2 storage service, attaining 87.9% accuracy on validation dataset.
- Launched product with MIT-IBM Watson AI Lab scientists to advance ML research and saved IBM $400K/year.



GitHub


Peter Wu
weirongw23
UMich Computer Science '23
Edit profile
28 followers · 23 following
University of Michigan College of Engineering
Ann Arbor, MI
weirongw.io
@weirongw23
Achievements
Beta Send feedback
Organizations
weirongw23 / README.md
Hey, I'm Peter
Self-described "techpreneur" interested in computer science, mathematics, venture capital, and startup innovation. I am a Computer Science major and triple-minoring in Pure Mathematics, Statistics and Business. Visit [website_url] to view my portfolio of apps, books, projects, courses, videos, technical blogs, testimonials, and more!
Want to get in touch? Contact me at weirongw@umich.edu or message me on LinkedIn! Go Blue!
Pinned
Customize your pins
ml-bayesian-clf Public
A text classification model using the Naive Bayes classifier to identify fake news
Python
memo Public
memo[rize] a set of snippets, by typing them out and diffing the results
Python 5
personal-website Public
Peter's website
JavaScript
iOS-flixster Public
Flixster is a movie browsing app that fetches data from the web and displays it in a scrolling list that's easy and interactive for users to view.
Swift 1
iOS-parstagram Public
This is an Instagram clone with a custom Parse backend that allows a user to post photos, view a global photos feed, and add comments!
Swift 1
iOS-twitter Public
Twitter implementation in Swift
Objective-C
616 contributions in the last year
Contribution settings
2023
2022
2021
2020
2019
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Mon
Wed
Fri
Learn how we count contributions
Less More

GitHub ToDo's

- Host personal projects publicly
  - Allowed to work with others
  - Share on ProductHunt, LinkedIn, etc.
  - Attend Hackathons
- Add an README doc
- Look at other people's projects, dive into source code, ask questions
- Contributions
  - Contribute to open-source projects (low priority)
  - Please make class projects private (been on honor council, unfortunately had to kick people out of school or take back their diplomas)
  - LeetHub

Personal Website

About Blog Projects

Peter Wu

Hi, I am Peter! I recently graduated from **University of Michigan** and I am an engineer at **Bubble**, the world's leading no-code platform. If you want to get in touch, my email address is weirongw@umich.edu.

For more information, check out my **About Page**.

May 18, 2023

Day 1 Dev Setup

Effectively set up your terminal to be productive on Day 1 of Onboarding

Read ›

Stay up to date

Get notified when I publish something new, and unsubscribe at any time.

Email address

Join

Preparation

Preparation

Classes

1. Optimize ULCS for things you can't learn easily by yourself, check out "Alternative Class Recommendations"
2. Take some time to explore and narrow down your interests
3. Talk to friends, co-workers, mentors about finding the right classes for you

S	EECS 482	EECS 491	EECS 281
A	EECS 485	EECS 201	EECS 483
	EECS 490	EECS 388	EECS 481
B			
C	EECS 445	EECS 449	
D	EECS 477		
E			
F	EECS 370		

EECS 376

Classes

- **Quant OR Systems:** EECS 281, EECS 370, EECS 482 (6 credits), EECS 390/490, EECS 491, EECS 489, EECS 477/586/CS 170
- **Product Engineering OR Startups:** EECS 441, EECS 481, EECS 485
- **Machine Learning, NLP:** EECS 445, EECS 449, EECS 487, EECS 442, EECS 498-007
- **Other good classes:** EECS 483 (w/ Max New), EECS 201, EECS 388 (w/ Alex Halderman)
- **ULCS to avoid:** EECS 484 (you can learn this anywhere), EECS 494 (if you don't enjoy game dev and are not ready to put in 40 hrs/week), EECS 486 (485 covers enough of this), 493 (bruh they made it way too hard)

Math / Stats

- Math 217 is a must take if you like math + want to do more of it
  - Also good for machine learning
  - Math 201 is a good preparation for Math 217
- Math 465 is also good for quant and building abstract thinking
- Math 295 gets you good at solving hard problems
- Stats 412 over Stats 250 if you can
- Math 425/Stats 425 is a must take
- Other advanced classes
  - Stats 413 (depending on prof, can be more proof-based)
  - Stats 426 if you wanna go hard on quant
  - Stats 451 if you wanna learn the tools and how to use them

Alternative Class Recommendations

- **Natural Language Processing:** UT Austin
- **Advanced Algorithms**: CS 170 (Berkeley)
- **Computer Systems Architecture**: 15-213 (CMU)
- **Operating Systems**: OS 3 Easy Pieces, Solutions
- **Databases**: 15-445 Course, Discord, Autograder
- **Machine Learning**: Andrew Ng Coursera
- Programming Paradigms: Stanford
- Missing Semester MIT

Happy to look over schedules

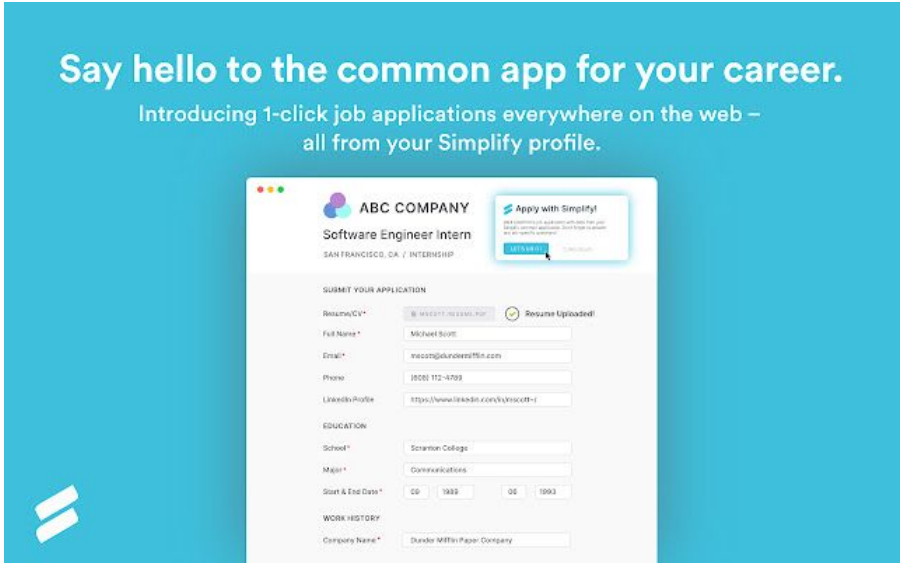
- Trade-Offs
  - Schedule/Workload
  - Picking out good professors
  - Fall vs. Winter
  - Spring classes freshman year
- Skipping “Scheduling Tips”, but please read it after

Class Scheduling Tips

- Friends
  - Schedule Builder, Atlas AI
  - Check out the link on page 2 for ULCS walkthroughs
- You are not invincible — don't do 8/9AMs
- Taking 4 hard classes vs. just 2 but maximizing what you learn
- Class Combos
  - EECS 201 + EECS 281 + EECS 370/376 (preferably 376)
  - TC 300 ASAP, need for TC 497 (for Engineering)
- Can load more in winter (no recruiting, one more week, spring break)
- Don't take every hard class — do what's useful. College is not a pokemon game, you don't have to catch all.
  - For example, I took Bio 172 and Chem 210/211 together "out of curiosity…"
- Get your requirements (e.g. Bio, Physics, Chem, Calc I/II/III) at a community college. You can only take so many classes at UMich, so make them count. Ask your advisor to see if certain classes transfer (and DB online).
- Decide on a group in advance. If you have the option, pick a **partner.** Invite your team to dinner — you should gauge if you wanna work with those people before even starting.
- Make a Discord :)
- Check your progress: Wolverine Access > Student Center > Weird Bar > Generate What-If Report
- Declare CS ASAP to get ULCS. Can apply for graduation 1-2 semesters in advance.
- Don't read Reddit or Blind

Applying to Jobs

- Remind yourself why an internship is import to you
- Websites
  - Use Simplify (extension)
  - levels.fyi
  - sweintern.com
- Applications are rolling
  - Continuous process
  - Apply until you get an offer
  - Ideally before November (slow down hiring, interviews get HARD)
- **Apply to places even if you don't think you are qualified**
- Set a goal for yourself (5 companies/day → 150 companies/month)
  - Avoid OA Hell
- Fill out only the required fields



Apply to a lot of companies

Like a lot...

But, where do I apply?

Freshman/Sophomore (Resume + Essays)

- Google STEP
- Google Summer of Code
- CodePath Workday Internship
- IBM Extreme Blue
- Microsoft Explore (PM + SWE)
- Microsoft New Technologists
- Bank of America Global Technology
- Palantir Path
- UberSTAR
- Facebook University
- Jane Street INSIGHT
- Code 2040
- Twitter Academy

Tech Companies

- Websites
  - sweintern.com
  - levels.fyi/internships
  - CoderQuad New Grad 2023
  - PittCSC Summer 2023 Internships
- V1 Startup Fair
- LinkedIn, Google Jobs
- Reach out to local, smaller, startup companies directly (both big and small)
- International Students — look for companies who sponsor, interview process isn't much different

Startups

Reach out directly to founders, look at VC firm portfolios, understand their people, culture, and why you want to make an impact there. Check out the blog written by Eliot and Mbogo.

- Sequoia Capital
- Neo
- Insight Partners
- Kleiner Perkins
- 8VC

Check out Crunchbase for funding info

Career Fairs

- Can be **very helpful to landing interviews** if you approach them with the right mindset
- Don't leave career fair until you have
  - A recruiter's email
  - A recruiter writing all over your resume
- **Strategy**
  - Go either before they set up the booth OR right as they're about to leave
    - I have been expedited interviews at several companies
  - Search for companies, go in prepared with a list (in order) of companies to visit

Let's Write an Elevator Pitch (3 min)

Keep under 45 seconds

1. Hey, my name is ‹your name›. It's a pleasure to meet you. What's your name?
2. Awesome, let me tell you a bit about myself!
    a. Name, Year, Major/Minors
    b. Choose a fun fact
    c. I applied to the SWE intern position, and I'd love to tell you why I am interested
    d. Professional Highlights (mention most impressive accomplishments)
        i. Internships
        ii. Personal Projects
        iii. Ventures / Startups
        iv. … and more!
    e. Why you are interested in the company → "I would love to work at Uber because Uber engineers ignite the world on motion by working on complex software that scale to millions of daily rides."
        i. Maybe they do distributed systems
        ii. Maybe you like ML/NLP
        iii. Choose a couple of unique fun facts about the company
3. Would love to go into more detail about anything on my resume

Networking

- **Who do you network with?**
  - The person that has the most power to get you an offer
  - **Order of Importance: Hiring Manager > Recruiter > Engineers > Cold Applying**
- **Networking is a two-way street**
  - **Please do not only reach out when you need help — people can see straight through that shit**
    - It leaves a bad impression about you
    - It also leaves a bad impression about all the things you represent (your family, your culture, your school, etc.)
  - **Genuine relationships means…**
    - Following up and caring about how people are doing
    - Offering your hand when you can
    - Thank them when something good happens (dinner, boba, gift, etc.)
  - My genuine relationships have helped me land opportunities I can't imagine

Reaching Out

Hi ‹name›!

My name is Peter, and I'm a junior studying Computer Science at the University of Michigan. I saw you work at ‹Company Name›, and I'm really interested in interning there next summer as a Software Engineer. I noticed that you are a UMich alumni, so I wanted to reach out and ask if you have 10-15 minutes to chat about your work and what it's like to work at ‹Company Name›! Thanks so much!

Go Blue!
Peter Wu

Follow-Up in 24 Hours

Hi <...>,

Thank you so much for chatting with me today! I really enjoyed learning about the different teams you've been a part of, as well as the unique attributes of Software Engineers at <...>. I found a lot of value in understanding why I want to work at <...> and what scalable software engineering looks like first-hand.

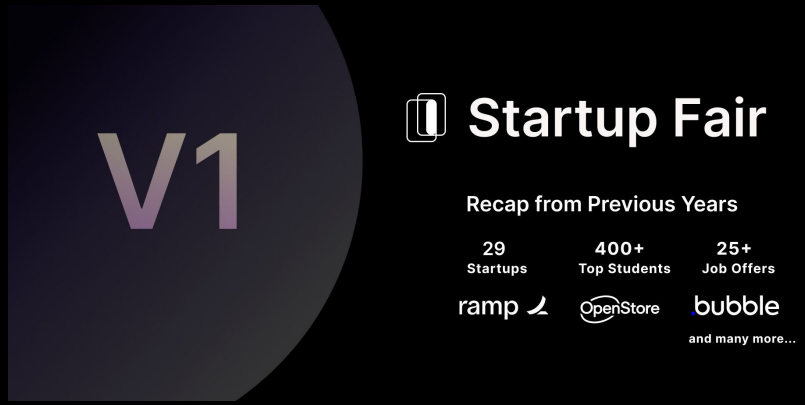
I've attached my resume below, and I appreciate you looking through it for me. If there's anything I could change before you submit the referral, please let me know and I will get it fixed as soon as possible.

Thank you again for your time and consideration. Looking forward to staying in touch through <...>!

Sincerely,
Peter

Preparation

V1 Startup Fair



- **Fantastic opportunity to discover, connect, and work at the fastest growing startups — career-defining internships / full-time jobs**
- If you applied to V1 Product Studio, you don't need to apply again
- By the Numbers
  - 400 top candidates
  - 29 startups
  - 30 offers
- Engineering, Product, Design, Business
  startupfair.v1michigan.com

Company Events

Hello From Tesla

Lane 11/16/2022

Hi Weirong

I hope you are doing well on this Wednesday!!

My name is Lane Sinclair and I support the hiring for our Autopilot Telemetry Intern team here at Tesla. I wanted to reach out and thank you for submitting your application. I have reviewed your information and wanted to collect additional information prior to proceeding. I have dropped in our Intern questions below for you to review. If you have the ability to complete and send back to me that would be great. In the meantime, let me know if you have any quesitons.

Help, I don’t know how to prep?

Once you get in the interview process, your recruiter is on your side. Please don’t hesitate to reach out if you’re unsure of how to prepare for the interview. They want you to succeed, and, in some cases like Uber, they will coach you through the process.

Dear ‹my recruiter›,

I’m not quite sure how to prepare for my interviews. What can I expect for the upcoming interview to contain, and how would you suggest I prepare?

Thanks,

Peter

Technical Interviews — Before Summer

- Put effort into your EECS classes (especially coding intensive ones like 281/482/485/etc)
  - Focus on writing good, idiomatic code
  - Always rewrite your project to make your code cleaner, and compare your solutions to other students in the class
- **Taking the extra effort to learn those small extras (in your class) goes a long way**
- Language-Specific Knowledge
  - git/makefiles from 280/281 beyond basics
  - Why C++ vectors amortize to O(1)
- Follow cscareersdev on Discord, Reddit, etc.

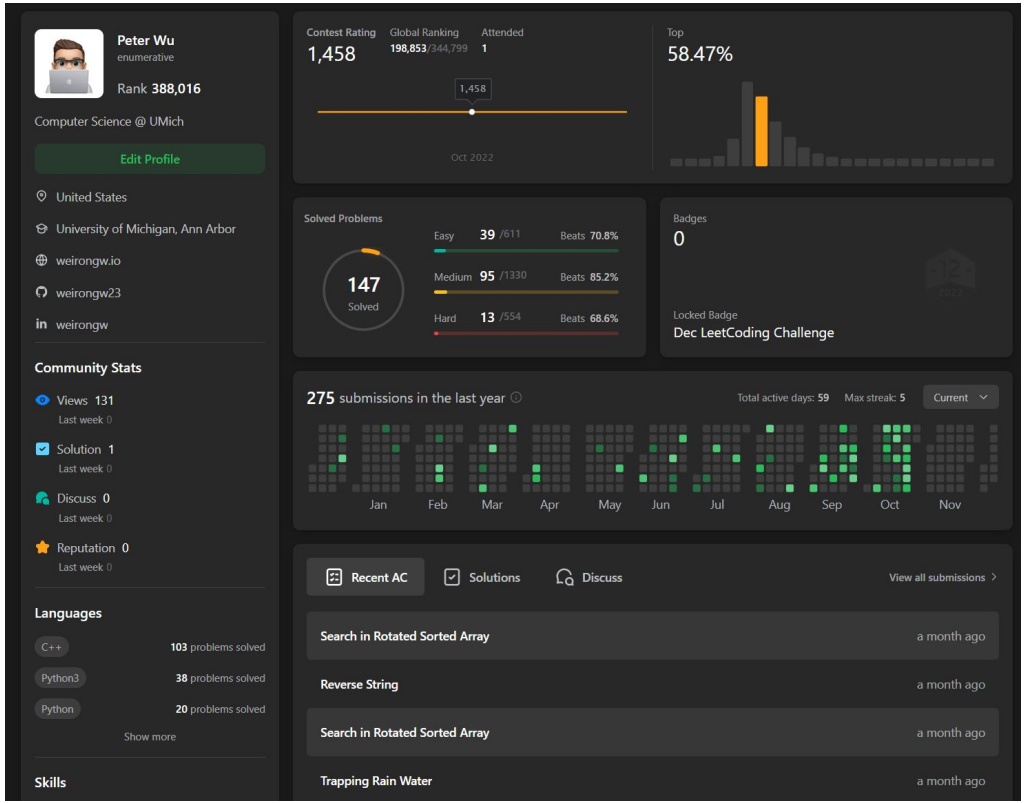
Technical Interviews — During Summer

1. **Learn Python ASAP. Python for Interviews**
   - 1 line of Python = 3 lines of C++
   - Python Design Patterns
2. **Set a goal**
   - 10 questions/week = 80 questions in 2 months
   - 15 questions/week = 180 questions in 3 months
3. **Create a GitHub repo**
4. **Get LeetHub**
5. **Learn a pattern**
6. **Blind 75 OR Neetcode 150 → practice by patterns (Monday - Friday)**
7. **Take a Hackerrank on Saturday (see next slide)**
8. **Review on Sunday**
9. **Review EECS 280/281 as you go — focus on trade-offs, time-space complexity, optimizations, and CS foundations**

Practice Hackerranks

Pattern	Hackerrank	Pattern	Hackerrank
Linked Lists (Dummy Node + Runner)	Link	Strings + Arrays (Two Pointers, Sliding Windows)	Link
Core Data Structures (Stacks, Queues, Deques, D&C)	Link	Dynamic Programming	Link
Algorithm Families	Link	Backtracking	Link
Binary Trees	Link	Bits	Video
DFS, BFS, Graphs	Link	Object-Oriented Design Patterns	Link
Topological Sort and Advanced Graph Algorithms	Link		

Leetcode


Peter Wu
enumerative
Rank 388,016
Computer Science @ UMich
Edit Profile
United States
University of Michigan, Ann Arbor
weirongw.io
weirongw23
weirongw
Community Stats
Views 131
Last week 0
Solution 1
Last week 0
Discuss 0
Last week 0
Reputation 0
Last week 0
Languages
C++ 103 problems solved
Python3 38 problems solved
Python 20 problems solved
Show more
Skills
Contest Rating
1,458
Global Ranking
198,853/344,799
Attended
1
1,458
Oct 2022
Top
58.47%
Solved Problems
147
Solved
Easy 39 /611 Beats 70.8%
Medium 95 /1330 Beats 85.2%
Hard 13 /554 Beats 68.6%
Badges
0
Locked Badge
Dec LeetCoding Challenge
275 submissions in the last year
Total active days: 59
Max streak: 5
Current
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Recent AC
Solutions
Discuss
View all submissions
Search in Rotated Sorted Array
a month ago
Reverse String
a month ago
Search in Rotated Sorted Array
a month ago
Trapping Rain Water
a month ago

Study Tips

1. **Deliberate Struggling**
   - After you learn a pattern, practice that pattern with 5-10 questions
   - Set a timer for 30-45 minutes
   - Exhaust all resources you have
   - **Read the solution, uncover hints 1-by-1**
2. **Use Anki or Quizlet** to make flashcards for either concepts or questions/code you've written. Go through them everyday and recall the patterns.
3. **Use Memo** to type out code and diff them
4. Keep a running doc of interview + OA questions (MUST DO)
5. Do mock interviews. Lots of them!
6. Sign up for CodePath :) (@Dev)

Amazing Resources

- [EECS 183/280 Friendly] CS50 Lectures
- ByteByteGo
- EECS 281 Labs
- Study Guides
  - EECS 280 Midterm
  - EECS 280 Final
  - EECS 281 Midterm
  - EECS 281 Final
  - EECS 370 Final
- Engineering Blogs
  - Stripe
  - Google
  - Meta
  - Uber
- Even more knowledge, Competitive Programming Book, CP Handbook, and Viz

Mock Interviewing

- Scrimmages in Football
  - You can't play well in games if there are no scrimmages
    - 2-3/Week in the summer
    - 1/Week during the week leading up to the interview
  - Safe environment to receive feedback
- **Resources**
  - interviewing.io
  - Pramp
  - Fellow Students
  - Engineers

Behavioral Interviews

Behavioral Interview Guide by Alex Chiou:
https://chioualexander.medium.com/how-to-ace-your-software-engineering-interview-part-2-behavioral-questions-a56e916cf834

- Got several $100Ks extra in his TC because he cracked behavioral interviews
- Low hanging fruit
  - Easy to prep
  - Take some time to reflect, write down what you did, and practice
  - Keep a journal!

The Day

The Day

Pregame

- All the prep work done ahead of time
- Make sure you're in a good mindset
  - Sleep
  - Eat
  - Relax
  - Exercise
- Develop a pre/post interview routine
- Interview on Tuesday, Thursday, Friday
  - Schedule mocks on those days too
  - No need to send thank-you emails after

Company / Interviewer Research

ABOUT INTERVIEW: ● *When is it? How long?* ● *Where is it? Zoom*/phone?* **Some tips for choosing Zoom background*	
ABOUT INTERVIEWER: ● *Who is it with? What is their title?* ● *Link to their LinkedIn* ● *Do they have technical background or not?*	
1 OR 2 THINGS ABOUT ROLE/COMPANY I WANT TO TRY TO WORK INTO MY PITCH:	
Why are theirs the problems you want to solve?	
What are their values?	

The Game

Resume

List of Questions

Brief Company/ Interviewer Research

Do You Have Any Questions?

- Always say yes
- Included questions by category (will skip them here)

Engineering Practices

- What version control system do you use? (if none, the interview should be over =))
- Do you test your code?
- How do you make sure that all code is understood by more than one person?
- Do you do code review? Does all code get reviewed?
- Do you have an issue tracker?
- Describe your deployment process – how do you find bugs in your team's code? What recourse do you have when you find a serious bug in production code?
- Who is responsible for doing deployment? How often do you deploy?
- How do you think about code correctness?
- When something goes wrong, how do you handle it? Do devs get shamed for breaking the build?
- How/when do developers talk to non-developers? Is it easy to talk to the people who are will be using your product?
- Can I see some code the team I'm interviewing for has written? (from an open-source project you work on, for example)
- Who are the people at your company with a lot of depth of experience? Will I be able to talk to them?
- What's your approach to technical debt?

Management Style

- How does engineering work get assigned?
- How are technical decisions made and communicated?
- How do you balance support work and feature development?
- Can you give me an example of someone who's been in a technical role at your company for a long time, and how their responsibilities and role have changed? (I *love* this question)
- Do you have a dedicated designer? QA? Technical writer? Dev manager?
- How often do you have meetings? Are there any scheduled/standing meetings? Who talks to customers (if appropriate) and how?
- Has there been a situation where someone raised an ethical concern? If so, how was it handled? If not, have there really not been any?
- How are decisions made? Is architecture dictated top down? Are ideas from anyone welcomed? If so, in what scope/context?
- How are disagreements solved - both technical disagreements and other kinds? What happens when personalities clash?
- Can you tell me about a time when you've had to let someone go?
- Is there a written roadmap all developers can see? How far into the future does it extend? How closely is it followed?
- How is performance evaluated?

Quality of Life

- How much vacation do people get? If there's "unlimited" vacation, how much vacation do people normally take?
- Is it possible to take sabbaticals or unpaid vacation?
- How many women work for you? What's your process for making sure you have diversity in other ways?
- How many hours do people work in an average week? In your busiest weeks?
- Is variability tolerated or is everyone expected to be on the same schedule?
- What time do people normally leave work?
- Would I need to be on call? How often?
- How often are there emergencies or times when people have to work extra hours?
- What is your turnover rate like? How many devs were hired last year and how many left?
- What's your retention rate of women over 1.5 years? Do you think you could have done anything differently to keep people who left?
- Do people work on the weekend?
- Do people check in when they're on vacation? How often?
- Is it possible to work from home, say, 1 or 2 days a week? Does anyone do this? (can be a nice option to have)
- Does this position require travel? How often? As many of these as possible are "statistical" questions – a company may say that they "don't have hours", but if everyone leaves at 9pm that's not a good sign.

Career Growth, Community, Culture

- Do you contribute to open source projects? Which projects? Which teams work on open source? Do you work mostly in the community or do you have a private fork?
- Do your employees speak at conferences about your work?
- Are employees encouraged to go speak at conferences?
- Do you cover travel to conferences? How many conferences a year do devs typically go to?
- Does your company support continuing education? (will they pay for employees to do a master's degree?)
- In what other ways do you support career development?
- How do you determine if someone is a poor fit for your company?
- How are your teams structured? What is the management structure like?
- How often do you pair? What's pairing like? How often do inexperienced people work directly with experienced people?
- What's the onboarding process like?
- Is there any sort of institutionalized way of dealing with plateauing or preventing burnout? (Expecting to hear about rotation of duties or location, sabbaticals.)
- Is it easy to move to other divisions or offices?
- How does internal communication work? This one is super important and I need to remember to ask it more.
- Are there catered suppers? (possibly bad)
- How many hours a week does senior management work? Do they put in 80-hour weeks?

Business Financials

- Are you profitable?
    a. if not, how does this affect what you can do? What's your planned timeline for becoming profitable?
- How do you make money? (I often explain to my parents or non-technical friends companies' business models to test if they really make sense.)
- How much are you planning to hire in the next year?
- Are company financials, minus salaries, transparent throughout the company?

Questions I Genuinely Want to Know

- How is the office space physically organized?
- Can you tell me about how the interview process is structured? How many interviews are there?
- How often do you offer above asking? Can I speak with someone who got such an offer?
- What do you wish you had known when you joined this company?
- Why did you choose to join this company?
- What's the single biggest issue or problem facing the team/department/company?" What's currently being done to address it?
- Is the business model obvious/simple to understand and explain to someone else? It really should be.
- Do you see yourself happy at this company a few years down the road? Do you think you would be proud enough to encourage your friends to join you?

How to end a conversation?

Playing Politics:

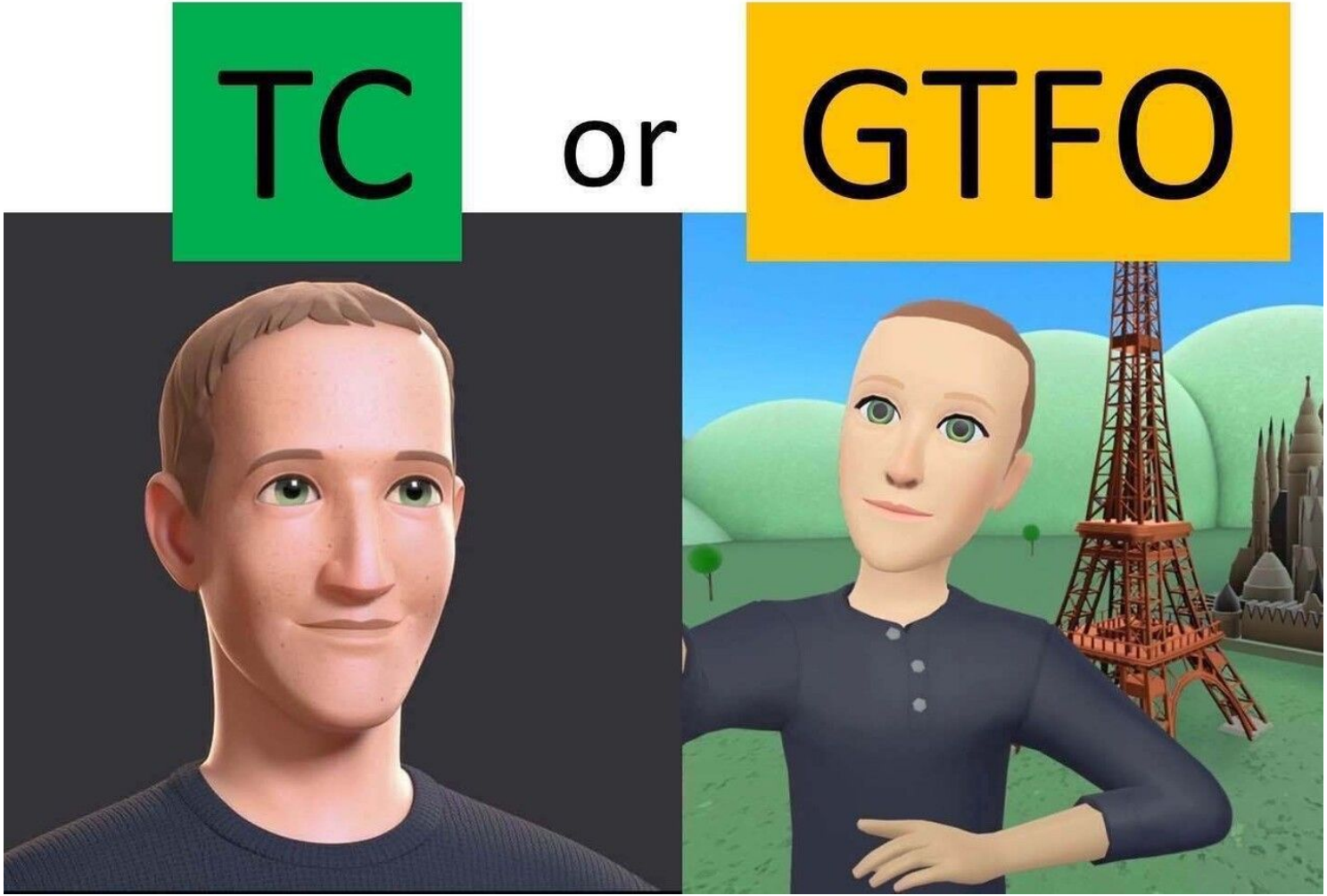
1. “It was wonderful meeting you today, thanks for the interview and fun problem.”
2. “I have a pending deadline on October 30, 2022, would you mind noting that down?”

If I really liked the interviewer, I will ask “if this pans out, I’d love to reach out and learn more about your team so we can potentially work together!”

Postgame

- **Make a running doc titled "Interview Reflections"**
  - Write down the questions, approaches, and follow-ups you got, along with any solutions you come up with
  - Write down what you think you could have improved on
  - You (like 2 years from now) will thank yourself
- Reflect on how you performed and **any feedback you can possibly get**
- Everyone has bad days — I failed about 80% of my interviews Fresh/Sophomore years, 60% Junior year, and a little less now

Negotiation


TC
or
GTFO

What does it mean to get a "job"?

- Getting a Job > Resources out of the world
- Economics
  - You sell your labor
  - Companies bid for it
- Striking a mutual deal in the labor market
  - You exchange time for money
  - Imagine you're selling watermelons
    - Do you sell it to the first buyer?
    - Or do you survey the market of buyers and see who offers you the best price?

Why Negotiate

- Most people don't negotiate
  - Companies send out the lowest offer, hoping you'd sign so they save money
  - If you don't ask, it's hard for them to give you anything better
- It's an unfortunate reality of our capitalistic society
  - You need to negotiate to get the best deal possible (boba story)
  - If you don't, you're getting the short end of the stick. Luckily, you can learn it!
- You are **EXPENSIVE** to hire. Example hiring process costs $130,000
  - Job Post ($300-$600)
  - Reviewing 10K resumes ($12,500)
  - About 5% get phone screen, 500 phone screens * 150 ($75,000)
  - About 50% get the technical interviews, 250 interviews * 150 ($37,500)
  - About 10% make it to onsite, so 25 onsites * 150 ($3,750)
  - Finally, they make an offer to you, their employees take time to negotiate ($1000)

Building Leverage

S	Competing Offers
A	Past Internships, Adding Value
B	Strong Alternatives / Reasons
C	Personal Circumstances
D	
E	
F	

Rules for Negotiation

1. Get everything in writing
2. Always keep the door open
3. Information is power
4. Always be **overwhelmingly** positive
5. Don’t be the decision maker
6. Have leverage
7. Proclaim reasons for everything
8. Be motivated by more than just money
9. Understand what they value
10. Be winnable

Good Negotiators Bend the Rules 🤯

Think about making dinner plans with your friends 😋

- Empathetic and Collaborative
- Fulfill both of your needs
- Your friends don't control you or issue ultimatums

Slicing a Cake — Hold on to this Mindset!

Loves Frostings

Loves Cherries

Many dimensions to job negotiation

- **Compensation Structure**
  - Base Salary
  - Signing Bonus
  - Stock Grants (RSUs and Options)
  - End-of-Year Performance Bonus
- **Work Enablement**
  - Commuter Benefits
  - Relocation Expenses
  - Equipment, Gym, Education Stipends
  - Childcare Stipend
  - Extra Time Off (Unlimited PTO)
- **Quality-of-Life**
  - Extra Vacation Time
  - Late Start Date
- **Career Growth**
  - Choose what team you're assigned to, what technologies you work on, your title at the company, etc

Offer is Due in 48 Hours

I have one big concern. You mentioned that this offer explodes in 48 hours. I'm afraid this doesn't work at all for me. There's no way that I can make a decision on this offer within a 48 hour window. I'm currently wrapping up my interview process at a few other companies, which is likely to take me another week or so. So I'm going to need more time to make an informed decision.

If they still push back, then

That's really unfortunate. I like [YOUR COMPANY] and was really excited about the team, but like I said, there's no way I can consider this offer. 48 hours just too unreasonable of a window. The next company I join will be a big life decision for me, and I take my commitments very seriously. I also need to consult with my [EXTERNAL_DECISION_MAKER]. There's no way that I can make a decision I'm comfortable with in this short an amount of time.

Negotiating

And no, they won't rescind your offer if you ask for more money!

Dear ‹recruiter›,

1. I really enjoyed my work OR excited to move the needle for your company
2. … but I have a NEED
3. This is my next best alternative
4. … and I am SUPER VALUABLE to you

Let me know your thoughts.

Thanks,

Peter

Send this email

Hi Erin,

I hope you had a fantastic weekend :) Thank you so much for clarifying my questions!

This past weekend, I spent a lot of time talking to my family to weigh my options. The offer Microsoft extended me was really strong, and right now my decision is basically between Microsoft and Amazon. It's genuinely super hard to pick — to be completely honest, this multiple full-time offers thing is completely new to me!

While I certainly feel that Microsoft is a better cultural and team fit, Amazon is offering more in terms of compensation given my skills and experiences. There are a couple of dimensions where, if the offer can be improved, then I'd be able to come to a decision way sooner.

I am really excited about the problems Azure is working on. I absolutely loved my Microsoft internship experience, from working on exciting projects at the intersection of Storage Systems and Machine Learning, to learning from the best engineers in the industry as they guided me to performed well as reflected in midpoint and final connects. Most importantly, I can see myself learning, growing, and leading at Microsoft. In the last week of my internship, Sean mentioned our team is building on top of my project and research discovery, which is super exciting, as well as integrating more machine learning work into Azure Storage DevEx's roadmap next year to empower more people and businesses around the world.

Let me know your thoughts!

Warmly,
Peter

Phone vs. Email

The best deals get made with friends

- It's hard to make friends over **email**, but…
  - Asynchronous communication (lot less pressure) gives you time to strategize
  - Not too experienced? Avoid being run in circles and say uncomfortable things
- Talking on the **phone** signals confidence and helps you build a strong connection with your recruiter
  - They're your main advocate — they get paid if you get paid
  - You can tell jokes and make each other laugh
    - You want your recruiter to like you, to empathize with you, understand you, and want you to succeed
    - You want to care about your recruiter and understand what is motivating them

Negotiate Over Emails

There is tremendous power in honesty and directness. Take advantage of it.

Hi ‹recruiter›,

I hope your day is treating you well!

Regarding your previous email, I'd prefer to discuss the ***details of the offer over email***. I sometimes get nervous during important phone calls, so discussing the offer over email helps me to keep a clear head and communicate more clearly. I hope that's okay with you :)

Warmly,

Peter

Never Give the First Number

Hi Peter,

Thanks so much – still somewhat under the weather but thankfully feeling MUCH better than yesterday 😊

Happy to take this to the hiring and compensation teams to inquire. Do you currently have an offer in hand from Amazon or are you just now interviewing? Are there specific stock and/or signing bonus amounts that would make you feel comfortable accepting the Microsoft offer?

Best,

Never Give the First Number

Hi Erin,

I am so happy to hear you're on the mend, and please take care of yourself. Thank you so much for getting back to me!

I currently have an Amazon offer in hand. I don't have a specific number in mind — but I am confident that we will be able to find a package that we're both happy with, because I would really love to join Microsoft full time!

I really appreciate you helping me through this process!

Warmly,
Peter

If they push back

I completely hear you, and I agree it's important that we're on the same page. I really have no particular numbers in my head, it all depends on the fit and the composition of the offer. Once we decide we want to work together, I think that's the best time to figure out a compensation package that makes sense.

If they STILL push back

Well, okay. I know that the average software engineer in Silicon Valley makes roughly 120K a year salary. So I think that's a good place to start.

Scenario 1: 10K Increase Signing Bonus

Here’s what they’re telling us

That’s really tough for us to do. I’m going to try, I think you’re worth it, but I can’t really go to my boss and fight for you unless she knows you’re going to sign. Are you going to sign if I get you that 10K?

Turn the table around, they're taking away your negotiation power

Okay, so what I'm hearing is that you'll have to expend some personal reputation to get me a 10K bonus. If you end up going to bat for me, are you confident you'll be able to get that 10K?

They respond with

I think I can, it just comes down to you Peter. If you're serious about joining us, then I'll go fight for you. But I need to know for sure you'll sign.

Hit the 10 Rules of Negotiation

That makes sense. Unfortunately I can't commit to signing yet; I'm not yet at the stage where I can make a final decision. Like I told you before, this weekend I'm going to sit down with my family and talk things over with them. Choosing the company I'm going to spend the next few years at is a commitment I take really seriously, and so I want to be sure I'm making a well-considered decision.

But since you're confident that you can get an extra 10K, let's do this instead: in my mind, I'll pretend this offer is [X + 10K] and as I'm considering my final decision, that's where I'll value it. I know it's tough for you to go and get that from your boss, so I don't want you to do that until I'm certain I'm going to sign.

Scenario 2: 25K Increase in Stock

Basically they're telling you to not negotiate

I want to get this stock package for you. And I know I can, we've got the budget. But before I do that, I need your word on something.

I need you to give me your word that if I improve your offer, you're not going to just turn around and take our counter-offer to [COMPETITOR_COMPANY] to improve your offer with them.

This is cute 😋

Let me see if I understand what you're saying. You are willing to improve my offer, but only if I agree that I won't tell [COMPETITOR] what you're offering me. Is that correct?

Damn look at this guy 🤣

Well no, I can't legally do that. What I mean is…what I mean is, look. I like you. But if I improve your offer and you just take our offer to [COMPETITOR], you'll be violating my trust.

I got the upper hand XD

Okay, let me be sure I understand you here. If you give me this offer and I tell [COMPETITOR], I will be violating the trust under which you're granting me this improved offer. Is that correct?

He comes back knees buckled 😈

Uhh…Look. How about this. In my mind, I'm going to go get you this stock package okay? And in my head, I'm going to do it with the assumption that you're the kind of person I think you are, and you're going to consider our offer in its own right and not just shop it around. Fair enough?

CONGRATS 🥳

Open Q&A

Thank You!

Website	www.weirongw.io
LinkedIn	www.linkedin.com/in/weirongw
GitHub	https://github.com/weirongw23
Email	weirongw@umich.edu

Feel free to reach out 😇

- Overcoming challenges
- Campus involvement
- Internships / Projects / Research / Academia
- Running / Working Out
- Anything tech-related
- Food + Boba

Appendix

Exceeding Expectations

A Day in the Life

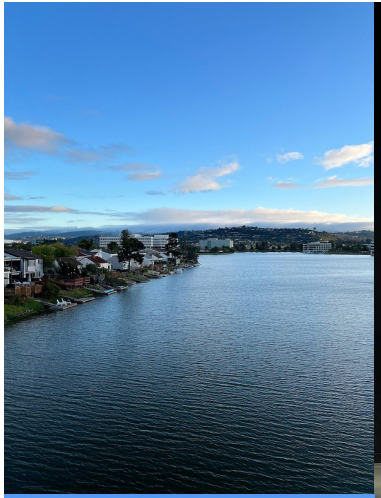
A lot less coding than you think, work-life balance definitely varies across teams/orgs

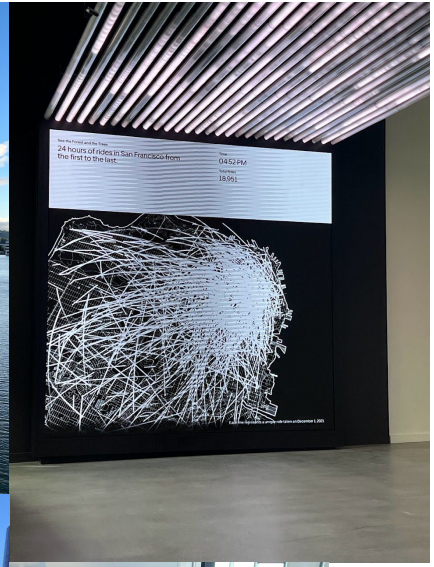
- 7:00-8:50: Wake Up, Commute
- 9:00-10:00: Emails/Planning/Breakfast
- 10:00-12:00: Deep Work
- 12:00-1:00: Lunch with Team
- 1:00-2:00: Meetings
- 2:00-6:00: Work
- 6:00-7:00: Gym, Pregame
- 7:00-????: Warriors Game

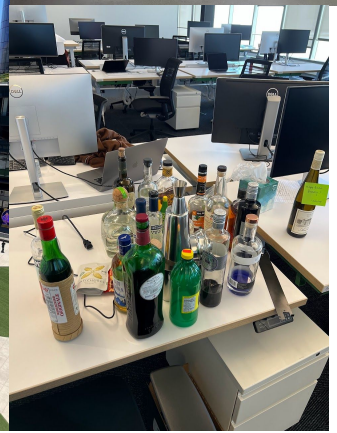
Before the Internship

Here are a few things to make sure you have a smooth start

- Research the company
  - Familiarize yourself with business products and product lines
  - Think about some improvements/initiatives
- Learn about the work
  - Individual team and projects
  - Request to work on a project that interests you
- Living Situation
  - Talk to other interns about their past experiences, find roommates, and look for alternatives
  - Do not underestimate the commute
- Plan trips/social events with other interns/roommates







Commute

1:52 PM - 4:01 PM
(2 hr 9 min)

260 > L1 > East Route

Transbay-Caltrain Route

2:10 PM from Bridge Pkwy & Bowsprit Dr
$8.25 27 min

Add to Calendar

1:52 PM **Redwood Shores**
Redwood City, CA

Walk
About 18 min, 0.9 mi

2:10 PM **Bridge Pkwy & Bowsprit Dr**

260 Belmont
9 min (5 stops) · Stop ID: 362415

2:19 PM **Ralston/El Camino**

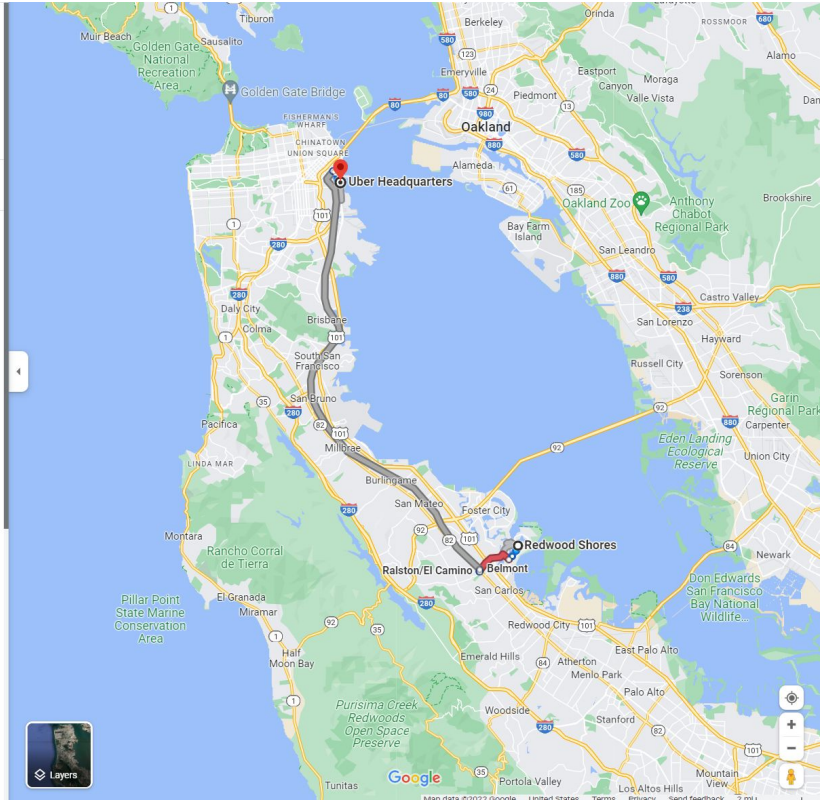
Walk
About 3 min

3:02 PM **Belmont**

L1 167 San Francisco
47 min (10 stops) · Stop ID: 70121

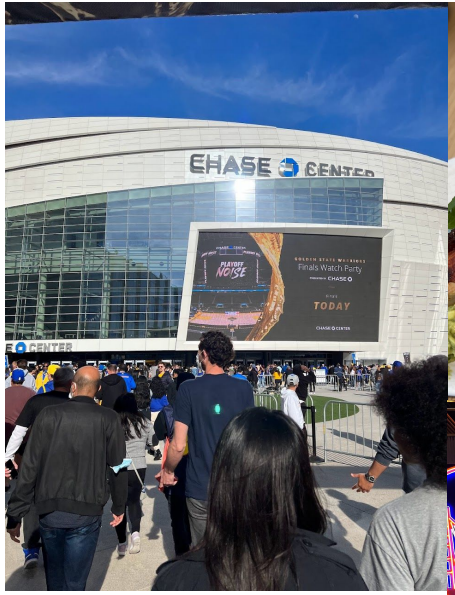
3:49 PM **San Francisco Station**

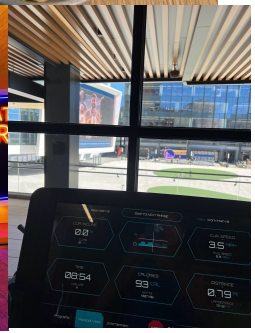
Walk
About 4 min



Intern Manager + Mentors

- Assigned intern manager to help complete work, guide you through company policies and technologies, and evaluate abilities/progress, usually senior members
- Relationship
  - Maintain open, friendly, and honest communication with your intern manager
  - They are your primary advocates during evaluations
  - Make good progress, showcase your skills and personality
- Goals
  - Communicate goals to your manager ASAP
  - Intended Focus (ML, Web Dev, Mobile, Backend, etc.)
  - Gear your project towards your goals
  - If you want to get a return offer, tell them so they can choose a project that will likely succeed and/or showcase your skills
  - If you want to focus on pure learning, they may give you a project you're less familiar with





Strategic Coffee Chats

Effective Onboarding

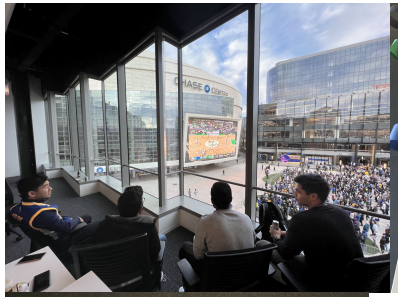
- Keep a journal around (coffee chats, learning systems, deployment, version control, classes, feedback, experience). Don't ask the same question twice.
- Ask questions about the onboarding guides
  - Usually there are some issues
  - Propose changes and improve them
- Ask questions about the team roadmap and how projects relate to each other
- Identify low-effort changes that are easy to make and undeniably a good thing (e.g. adding a unit test that is non-trivial, but refactoring a whole module as a new grad is dicey)
- Talk to lots of people and ask them what their biggest pain points are
  - Write them down and see if you can find patterns
  - Share with your manager and see if there are some low-hanging fruit to improve something

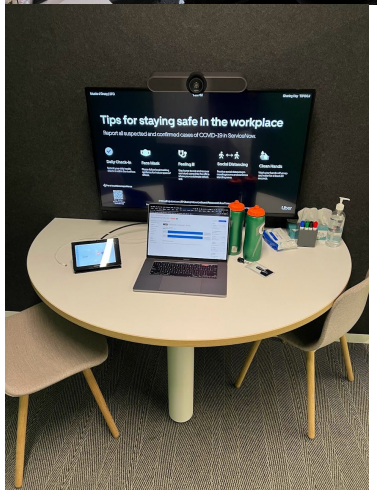
Effective Communication

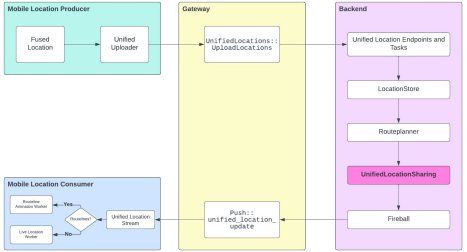
- What is effective
  - Focus on being valuable
  - After each meeting, know what stakeholders to get in touch with
  - Putting the team first
  - Knowing what you want out of your career
  - Be vulnerable
- “Doing well here and advancing my career is really important, but in the short term I want to focus on making an immediate impact. Could we create a growth/promo plan in 3-6 weeks? I’d love to discuss the job expectations with you at that point and what it looks like to exceed expectations.”
- Your performance review should not be a surprise
- Set up 1-1 check-ins with your manager, at least once per week

Technical Work

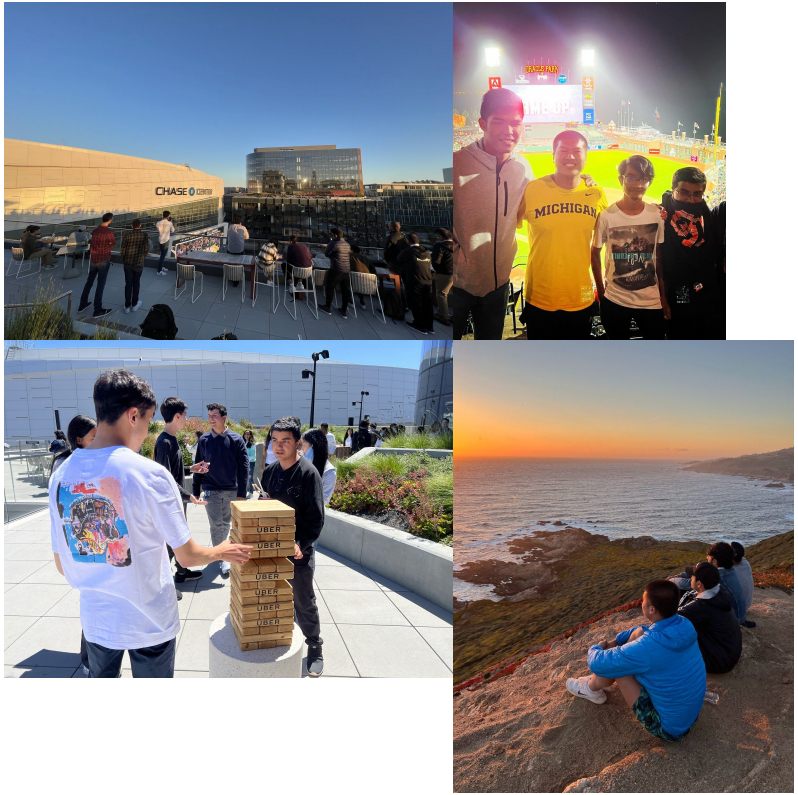
- What is important
  - Write high-quality code
  - Performant + bug-free
  - Finish assigned work
  - Communicate ideas to stakeholders
- Ask questions
  - Try for ~15-30 minutes
  - Ask someone on your team
  - Set up codebase walkthroughs
  - Tell what you've tried, what has worked, what didn't work
  - Make note of the answer
- Learn the tools (IDE shortcuts)
- Be responsible for your work
  - You're valued as a full-time employee
  - Prove that you are one by voicing your opinions, contribute to discussions, and resolve issues
- Try not to work overtime
- Ask for feedback frequently — there's always something you can improve on, and don't be discouraged







Socials



- Take advantage of events offered by company, good way to meet people and do coffee chats
- Talk to current and past interns, set up socials, and ask for advice
- Most people will spread out to other companies, easy to ask for referrals
- Get to know full-timers
  - Technical experience
  - Familiarize with other types of technical challenges at your company
  - They can also put a good word in for your performance review
- Don't spend all your time at events

Long-Term Success

Personal Advice

1. Never put your family, friends, mental health, or significant others low on your priority list
2. Hard work beats talent when talent doesn't work hard, and progress is NOT linear
3. If you're gonna do something, be the best at it
   a. Quality is always better than quantity, except when you're starting
   b. Compare you only to yourself before today
4. Say hi and smile at everyone, doesn't matter what type of the day you're having
5. Being genuinely a good person will get you the farthest in life
6. Find a small group of people who will unconditionally support you through the ups and downs of college life and beyond
7. Spend more time thinking about what you want to do, how you'll do it, and the why, instead of spending ages figuring out the productivity system
8. Every human being needs three things to stay healthy — eat, sleep, exercise (and fun), but bake that into your schedule
9. Self care is not selfish
10. No ones know what they're doing, you figure out as you go
    a. Learn as you need
    b. Don't need to know everything
11. Problem → Solve → Scale
12. Every Engineering problem is three mutually exclusive sets. Master the first two, learn the last.

$$\text{Problem} = \{\text{Time}\} + \{\text{Money}\} + \{X\}$$

Quant Advice

- Must start in June, or you're late
- Competitive programing + math (ICPC, IMO, Putnam)
- High GPA (3.85+)
- Don't bother with systems design. Only Akuna will ask if you applied for an infra role.
- Take OS early and STUDY HARD. Most of these places will quiz you on concurrency, processes/threads, locks, scheduling, memory, cache locality, file systems, virtualization
- Understand low-level systems really well, including networking and distributed systems
- Jane Street: code board games, coding style/explanation (battleship, chess, othello)
- HRT/Jump/Headlands: cpp focused (cppcon, cppweekly by jason turner). Try to understand stuff like compiler hints
- RenTec will want you to understand everything from C++ 98 to C++ 23, need to be linux god
- Intern at Unicorns over FAANGs
- DESCO will test you on Math/Stats/Linux
- All this advice builds on the fact that you should comfortably solve a LC medium in <20 medium (solve = understand + code + test)
- People have an inflated perception of quant firms but the truth is the bar is just a bit higher than unicorns
- HRT is more algorithms focused
    - CP Handbook
    - USACO Guide
    - Competitive Programming Textbook
    - Algorithms Textbook

What NOT to Prioritize

"You are partly defined by your results" — Scott DeRue, Michigan Ross Dean (2016-2022)

- Taking the hardest classes right away
- Taking the most classes
- School / club recruiting over applying to internships
- Doing research
- Becoming a teaching assistant
- Exploring different majors/minors

What to Prioritize

- **Stay consistent**
- **Get a nice desk setup / chair**
- Showing up is half the battle, walk before you run
- Think about what you want to accomplish and talk to people who are experts at what they do
- Build projects with other people (V1, Michigan Hackers, Clubs, Hackathons, etc.)
- Build long-term relationships with people
- Getting AN internship
- Take big project-based classes
- Preparing for different types of interviews
- Start building skills that compound early (need a long enough hill)
- Always play the long-game → don't sell your stocks in a bear market
- Spend some good time finding what is unique about you, find what makes you tick and the impactful things
- 100x your potential

The Iron Rule: Consistency * Intensity = Result

1% better everyday → 37x better/year

1% worse everyday → 37x worse/year

Types of Software Engineering Roles

Front-End	App Dev	Full-Stack	Back-End	DevOps/Infra	Systems

maps to...

Waiter	Manager	Manager	Chef	Prep Cook	Supply Chain

Industries

Type	Examples
Internet, IT, Ride-Sharing	FAANGMULA (Facebook, Apple, Amazon, Netflix, Google, Microsoft, Uber, Lyft, Airbnb) + Snap
Hardware	Intel, AMD, Samsung, DJI
FinTech	Ramp, Robinhood, Stripe, Plaid
Finance	Bloomberg, FactSet
Startups	Snowflake, YugabyteDB, Bubble
Quant	Jane Street, HRT, RenTech, Five Rings Capital
Non-Tech	Chick-Fil-A, McDonald's

“One More Thing”

Avoiding the Real Life / Gap Year

- Research Internships
- Study Abroad
- Off-Cycle Internships
- SUGs (5th year masters)
  - Some companies WILL pay for your master’s
  - Caveat is you gotta stay with them for ~2 years after graduation
- Pursue a Minor
- Teach Abroad (or become an IA)
- Startup / Building Products

Or you can just graduate early

Avoiding the Real Life / Gap Year

- Take a break
- Think of really interesting ideas in boredom
- Your body is not designed to only do from evolution
- Intern at different companies, built products, and see what’s out in the real world
- Test the water

Other Resources

- V1 Startup Fair SWE Track
- V1’s Secret to Finding Opportunities
- Michigan Hackers Technical Slides